LOM Architecture

London

59 Marefield Gardens

London Borough of Camden

Code for Sustainable Homes Planning Pre-assessment Report

Submission

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Document Control Record

Code for Sustainable Homes Planning Pre-assessment Report in support of the Planning Application for the Proposed Residential Development at 59 Maresfield Gardens by LOM Architecture & Design.

This report has been undertaken by Alexandra Frattali of Richard Hodkinson Consultancy.

Report Status: Draft for comment

Schedule of Issue

Version	Date	Reason for Issue	Prepared By	Checked By	Approved By
1	05.03.13	Draft for Comment	A Frattali		
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Executive Summary

i. This Code for Sustainable Homes Planning Pre-assessment Report highlights the sustainable features that will be at 59 Maresfield Gardens, Camden by LOM Architecture & Design, having been assessed against relevant national and local planning policies.

ii. The key sustainability features outlined in this assessment are listed below:

- The dwelling will achieve a Code Level 4;
- Internal water consumption will be reduced to a maximum of 105 litres/person/day in line with the London Plan;
- Cycling will be encouraged through the provision of dedicated cycle storage facilities;
- A SWMP will be prepared to identify ways to reduce construction waste and recycling opportunities;
- Materials will be selected based on their environmental impact, with preference given to 'A+' or 'A' rated materials from the BRE Green Guide to Specification where possible;
- The construction site will be registered with the Considerate Constructors Scheme;
- Sound insulation to improve upon Building Regulations Part E for both impact and airborne noise;
- The development will comply with the criteria set out within Section 2: Physical Security of the Secured by Design Scheme;
- A full Home User Guide will be provided to the dwellings, covering location and operational issues.

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1. Introduction

1.1. This Code for Sustainable Homes Planning Pre-assessment has been prepared by Richard Hodkinson Consultancy, an innovation, energy and sustainability consultancy, appointed by LOM Architecture & Design.

Development Proposal

1.2. The proposal for the new development includes the construction of one new 4 bedroom house with subterranean levels at 59 Maresfield Gardens, Camden, Greater London.

1.3. Design measures to achieve high standards of sustainability have been included through the development and will be adopted throughout the design and construction process. These measures will ensure the in-use development is as resource efficient as possible.

Figure 1: Proposed Site Location

1.4. The proposed site lies within close proximity to Finchley Road and Frognal and Finchely Road stations, providing excellent transport links around London. The site will also have access to the existing bus services along Fitzjohn's Avenue, providing services throughout central and north London.

Methodology

1.5. The following Report aims to show compliance with the London Borough of Camden's Development Policy 2010. The report also contains information on how the scheme will adopt the national environmental assessment method of the Code for Sustainable Homes and how it meets Code Level 4.

The appendices include the following:

- **Appendix 1** - Code for Sustainable Homes Pre-assessment for 59 Maresfield Gardens showing a possible route to achieving Code Level 4

2. Project Requirements

2.1. The dwelling in the proposed development will be assessed against the nationally recognised environmental assessment method of the Code for Sustainable Homes. This will involve meeting Code Level 4, as set out by the London Borough of Camden's Development Policies 2010, which will ensure the development achieves respectable levels of sustainability protection.

2.2. Using this assessment method will ensure the development is assessed and a quantifiable output is produced by which a nationally recognised measure of sustainability can be applied. The targeted level sought by the developer will ensure a sustainable scheme is created.

2.3. Appendix 1 illustrates a possible route by which the houses can achieve Code Level 4.

3. Energy and CO_2 Conservation

3.1. The development will achieve Part L1a 2010 Building Regulation requirements for the reduction of CO_2 emissions through the adoption of sustainable design and construction principles and the application of energy efficient design measures along with achieving Code for Sustainable Homes Level 4 and score of 68.61.

3.2. These measures will include improved insulation standards and improved U-Values from Building Regulation standards in all of the thermal elements.

3.3. In addition to the above, further measures will be adopted within the detailed design of the buildings to reduce the energy load. These include:

- Specifying energy efficient internal lighting throughout;
- Providing comprehensive advice to occupants on how to operate their dwelling efficiently and effectively via Home User Guides;
- Insulating all pipe work;
- Specifying A+ or A rated materials under the online Green Guide to Specification for the building envelope wherever practicable;
- Operating energy efficient external lighting with motion sensors and/or daylight cut-off devices;
- Where fitted, installing energy efficient white goods that meet the following specification:
  - Fridges, freezers and fridge-freezers: **A+ rated**
  - Washing machines and dishwashers: **A rated**
  - Tumble dryers and washer-dryers: **B rated**

3.4. Encouraging people to live and work in the same locality is central to the sustainability agenda as it reduces the need to travel and the negative externalities associated with this.

3.5. The concept of working from home will be promoted by the provision of internal services and infrastructure to the unit, enabling a home office to be established. This will contribute to the vibrancy of this scheme, whilst offering additional environmental benefits in terms of reduced transportation.

4. Water Consumption

4.1. As a mandatory requirement for Level 3/4 of the Code for Sustainable Homes, internal water consumption must be less than or equal to 105 litres per person per day[1]. This target will be met in the proposed dwelling.

4.2. Water efficient devices and appliances will be fully evaluated and installed, wherever possible. The specification of such devices will be considered at the detailed design stage and each will be subject to an evaluation based upon technical performance, cost and market appeal, together with compliance with the water use regulations.

4.3. Rainwater will be harvested using water butts installed in the garden. This will allow residents to recycle rainwater for irrigation purposes.

4.4. User Guide will be provided to the operating occupants of the residential uses of the house. These will provide advice and information on how to best operate the services within their dwelling. This method can be one of the most effective means to reduce use and wastage both in the short and long term.

5. Sustainable Materials Selection

5.1. Where feasible, the materials used in the development will be carefully sourced to ensure that environmentally friendly and low embodied energy materials are used.

5.2. Materials and element construction with an "A+/A" rating will be sourced where possible to enable the scheme to be as environmentally friendly as possible. These materials should be specified through the use of the Green Guide to Specification published by BRE[2].

[1] This is the prevailing standard within the Code for Sustainable Homes, which is the environmental assessment method for new build dwellings, using the new Part G methodology.
[2] This is now available as an online tool at http://www.thegreenguide.org.uk

5.3. Preference will be given to the use of local materials and suppliers where viable. This will be considered as part of the detailed design and construction process.

5.4. Timber used on the site will be sourced from sustainable sources (FSC, PEFC etc.) where practical. This also includes timber used in the development phases, such as hoarding and site fencing.

6. Reduced Flood Risk

6.1. The site will be required to comply with the mandatory requirements of the Surface Water Run-off credit in the Code for Sustainable Homes; which is to design housing developments which avoid, reduce and delay discharge of rainfall to public sewers and water courses. This will reduce the risk of localised flooding, pollution and other environmental damage.

6.2. A brief Flood Risk Assessment report will also be required confirming the risk of flooding from all sources of flooding, including information obtained from the Environment Agency, water company/sewerage undertaker, other relevant statutory authorities, site investigation and local knowledge.

6.3. The Environment Agency[3] webpage shows the site lies in an area with a low probability of flooding.

7. Waste Management

Household Waste

7.1. The design will provide for a domestic waste storage and recycling strategy that complements the existing collection arrangements operated by London Borough of Camden.

7.2. As a mandatory Code for Sustainable Homes requirement, adequate external waste storage will be provided for both recyclable and non-recyclable waste. The volume of waste storage will be the largest of the following two volumes; the minimum volume recommended by the British Standard BS5906 or the total volume of external waste containers provided by the Local Authority.

7.3. Adequate internal storage containers for household recycling will also be provided within the dwelling, in accordance with the measures outlined in the Code for Sustainable Homes.

[3] Environment Agency – What's in your backyard? http://maps.environment-agency.gov.uk

Construction Waste

7.4. A site waste strategy will be implemented during the construction process that maximises the recycling and reuse of materials and minimises that which is to be despatched to landfill. The amount of wasted materials arising from construction can be reduced by using regular audits to monitor and control site activities more closely.

7.5. It is anticipated that at least 50% material arising from the construction process will be diverted from landfill.

8. Building Quality

Noise

8.1. In order to reduce the likelihood of noise complaints, the dwelling will be aiming to achieve airborne sound insulation values that are at least 5dB higher, and impact sound values that are at least 5dB lower, than the performance standards outlined within the Building Regulations for England and Wales, Approved Document E.

Accessibility

8.2. The dwelling will be designed to meet the all of the 16 criteria under Lifetime Homes, as set out in the Code for Sustainable Homes requirements. This will meet policy DP6 of the of the London Borough of Camden's Development Policies, where all housing should be designed to meet the Lifetime Homes criteria.

8.3. The dwelling will be designed to meet Part M requirements as part of the Building Regulations, and as part of the Code Assessment, compliance with the Inclusive Design Principles Checklist will be required. This Checklist follows guidelines which are drawn from BS 8300:2009, BS 5709:2006, BS 1703:2005, Approved Documents Part M and H.

Natural Systems

8.4. The use of natural ventilation has been incorporated into designs wherever possible, including opening windows. Open-able windows will allow natural cross-ventilations, convective ventilation and night purging and will reduce the need for comfort cooling.

8.5. The use of natural light will be promoted, particularly in the living and dining room, with the inclusion of large glazed areas. This should enable a high level of daylighting. This will be assessed in greater detail at the design stage of the Code for Sustainable Homes.

9. Reduced Construction Impacts

9.1. It is anticipated that the development proposals will be registered with the Considerate Constructors Scheme. This is designed to encourage environmentally and socially considerate ways of working, to reduce any adverse impacts arising from the construction process. It will also assist in obtaining credits under the Code for Sustainable Homes. Under the Considerate Constructors Scheme, the proposed development will comply in terms of:

- Appearance
- Community
- Environment
- Safety
- Workforce

9.2. During the construction processes, control procedures will be put in place to minimise noise and dust pollution and roads will be kept clean. The management systems will generally comprise procedures and working methods that are approved by the development team together with commercial arrangements to ensure compliance.

10. Ecological Considerations

10.1. The ecological value of the site is important to the sustainability agenda – the lower the value, the greater the justification for development being the general rule.

10.2. The Applicant will commit to improving the ecological value of the site; features are likely to involve soft landscaping, including native species and species of value for wildlife. Flowering species will be preferred as these benefit invertebrate species and may provide nesting opportunities for birds.

11. Conclusion

11.1. The issue of climate change and its effects will be considered throughout the design of the development. In particular, the associated effects of flood risk, drainage, and water efficiency, building structure, renewable technologies and recycling will be addressed.

11.2. The Code for Sustainable Home strategy includes the following key points:

- A 25% reduction in CO_2 emissions compared with Building Regulations 2010 (Part L1A) will be achieved through a combination of energy efficiency and renewable measures;
- Water efficient devices will reduce internal water consumption; internal potable water usage will be less than 105 litres/person/day;
- The site would be registered with the Considerate Constructors Scheme;
- A Site Waste Management (SWMP) will be implemented and will ensure that waste is identified, minimised and managed appropriately at all stages of development;
- Building materials chosen in accordance with the Green Guide (three of the five key building elements must achieve rating of A+ to D);
- Adequately sized wheelie bins for waste and recycling to be provided to meet the mandatory Code requirements;
- Sound insulation to improve upon Building Regulations AD Part E for both impact and airborne noise;
- Provisions to allow for a Home Office.

Appendices

A) CSH Planning Pre-assessment

Code for Sustainable Homes Pre-Assessment - 59 Maresfield Gardens, Camden

68.61	Total Predicted Score	Development Description
Level 1 Level 2 Level 3 Level 4 Level 5 Level 6	36 Points 48 Points 57 Points 68 Points 84 Points 90 Points	4 Bed House - CL4

	Issue	Credits Available	Credits Predicted	Design Assumptions Made
Energy & Carbon Dioxide Emissions	**ENE 1** Dwelling Emission Rate	10	3	25% DER/TER improvement over Building Regulations 2010
	ENE 2 Fabric Energy Efficiency	9	3	To achieve 3 credits detached should achieve a fabric energy efficiency of 60 kWh/m^2/yr. This will set the requirement of high U-values (walls, floors, roof, windows), low air leakage.
	ENE 3 Energy Display Devices	2	2	Current electricity AND primary heating fuel consumption data are displayed to occupants by correctly specified energy display device AND energy display device is capable of recording consumption data.
	ENE 4 Drying Space	1	1	Rotary drier to secure garden.
	ENE 5 Energy Labelled White Goods	2	2	Fridges, freezers and fridge-freezers: A+ rated Washing machines and dishwashers: A rated Tumble dryers and washer-dryers: B rated ▪ If white goods are provided they should be best practice with respects to both water use and energy efficiency (ENE5) ▪ Dishwashers should use 1.25 Litres/place settings ▪ Washing machines / washer dryers should use no more than 8.17 litres / kg. ▪ If they are less efficient in water use, flow rates/ volumes in the other items will have to be reduced. EU Labelling leaflet to be provided within the Home User Guide (MAN1)
	ENE 6 External Lighting	2	2	Lamps with a luminous efficacy greater than 40 lumens per watt to be provided - Strip lighting (tubular fluorescent) and CFL's would typically meet these requirements. Space lighting must be adequately controlled to ensure it is not operational unnecessarily. This can include PIR, dusk to dawn daylight sensors and time switches. External space lighting must be controlled in such a way the lighting is not on during daylight hours. PIR and time switches should be used internally to the block of flats (stairwells, hallways, corridors) and cycle and waste stores respectively.
	ENE 7 Renewable Technologies	2	0	Credit not sought
	ENE 8 Cycle Storage	2	2	Cycle storage provided for4 cycle spaces, hanging system to be installed.
	ENE 9 Home Office	1	1	The services include ▪ 2 double power points, ▪ a double telephone point ▪ on a wall greater than 1.8m. ▪ services must be located clustered together ▪ Daylighting factor to be achieved - 1.5% - HEA1
	Energy & CO2 Category Predicted Score	31	16	**Credit Weighting - 1.17**
Water	**WAT 1** Indoor Water Use	5	3	Mandatory target of 105LPD to be achieved for all units. It must be considered that concessions must be made on the flow rates in high marketability flats as these to ensure this target is met. As a guidance the following should be used: ▪ WC - 6/3L ▪ Wash Basin Taps - 4L/min ▪ Shower Flow rate - 9L/min ▪ Bath Volume - 150L (with no displacement, i.e.. figures can not include 1 person in bath) ▪ Kitchen Taps - 4L/min ▪ No waste disposal unit assumed ▪ If white goods are provided they should be best practice with respects to both water use and energy efficiency (ENE5) ▪ Dishwashers should use 1.25 Litres/place settings ▪ Washing machines / washer dryers should use no more than 8.17 litres / kg. ▪ If they are less efficient in water use, flow rates/ volumes in the other items will have to be reduced. This achieves 105 LPD - If there is any change to the above then these must be checked through the WAT1 Calculator tool.
	WAT 2 External Water Use	1	1	200 litre water butt to be installed in rear garden.
	Water Category Predicted Score	6	4	**Credit Weighting - 1.5**

	Issue	Credits Available	Credits Predicted	Design Assumptions Made
Materials	**MAT 1** Environmental Impact of Materials	15	10	A+ to D rated materials should be chosen in accordance with the Green Guide, with a number of the main building elements having a low environmental impact.
	MAT 2 Responsible Sourcing of Materials - Basic Building Elements	6	6	The following materials have the ability to be sourced from sustainable sources, with certification to one of the tiers as noted in the right hand column: • Brick • Tiles • Resin based composite material • Concrete • Glass • Plastics and rubbers • Metals • Dressed or building stone • Timber • Cement bonded particle board • Plasterboard and plaster • Bituminous materials • Mineral based materials • Products with recycled content.
	MAT3 Responsible Sourcing of Materials - Finishing Elements	3	0	Credit not sought
	Materials Category Predicted Score	24	16	**Credit Weighting - 0.3**
Surface Water Run-off	**SUR 1** Management of surface water run-off from developments	2	0	Drainage Consultant to complete SUR1 template to achieve the following MANDATORY requirements: 1) Peak rate of run-off is not higher post-development that pre-development for both a 1 year and 100 year return period events. If there is additional volume then the following must apply - 2, then 3 below 2) Reduce predicted volume to zero by retaining on site and managing using infiltration of other appropriate SUDS techniques - if this can not be met then 3 applies 3) Reduce the site's peak rate of run-off to Qbar or 2l/s/ha whichever is the higher flow rate 4) System designed for system failure, with evidence showing that a property will not flood from system failure. Credits can be awarded for the following: ▪ One credit can be awarded by ensuring there is no discharge from the developed site for rainfall depths up to 5 mm. ▪ One credit can be awarded by ensuring that the run-off from all hard surfaces shall receive an appropriate level of treatment in accordance with The SuDS Manual to minimise the risk of pollution. Note: The SuDS Manual best practice recommendations should be followed where there is a risk to groundwater from infiltration (for example contaminated land, developments with high risk of pollution incidents).
	SUR 2 Flood Risk	2	2	A brief Flood Risk Assessment report to be carried out which confirms the risk of flooding from all sources of flooding, including information from the Environment Agency, water company/sewerage undertaker, other relevant statutory authorities, site investigation and local knowledge.
	Surface Water Run-off Category Predicted Score	4	2	**Credit Weighting - 0.55**
Waste	**WAS 1** Storage of non-recyclable waste & recyclable household waste	4	4	Adequate space must be provided to accommodate refuse bins sized to LA requirements, or BS5906 (which ever is greater), located on hardstanding and covered. Internal provisions for the storage of recyclable material must also provided, with an overall capacity of at least 30L in a dedicated position. Extensive new Checksheet required to be completed to show wheelchair accessibility for WAS1, WAS 3 and HEA3 - Checklist IDP - Inclusive Design Principles necessary to provide access and usability to amenities. This has been drawn from LTH, BS8300, BS5709, BS1703, Part M and Part H.
	WAS 2 Construction Site Waste Management	3	3	Site Waste Management Plan to be developed which contains the following: ▪ Target benchmarks for resource efficiency set in accordance with best practice ▪ Procedures and commitments to minimize non-hazardous construction waste at design stage. Specify waste minimisation actions relating to at least 3 waste groups and support them by appropriate monitoring of waste. ▪ Procedures for minimising hazardous waste ▪ Monitoring, measuring and reporting of hazardous and non-hazardous site waste production according to the defined waste groups (according to the waste streams generated by the scope of the works) Diverting Waste from Landfill Where there is a compliant Site Waste Management Plan (SWMP) including procedures and commitments to sort and divert waste from landfill, through either; ▪ Re-use on site (in situ or for new applications) ▪ Re-use on other sites ▪ Salvage/reclaim for re-use ▪ Return to the supplier via a 'take-back' scheme ▪ Recovery and recycling using an approved waste management contractor ▪ Compost according to the defined waste groups (in line with the waste streams generated by the scope of the works). 85% by weight or by volume of non-hazardous construction waste generated by the project has been diverted from landfill.
	WAS 3 Composting	1	1	Camden provide both food and garden recycling.
	Waste Category Predicted Score	8	8	**Credit Weighting - 0.8**

	Issue	Credits Available	Credits Predicted	Design Assumptions Made
Pollution	**POL 1** Global Warming Potential (GWP) of Insulants	1	1	All insulation to have a GWP of less than 5
	POL 2 NO_x Emissions	3	0	GSHP to be installed, no credits achieved.
Pollution Category Predicted Score		**4**	**1**	**Credit Weighting - 0.7**
Health & Wellbeing	**HEA 1** Daylighting	3	3	3 credits should be sought with all kitchens passing the required 2% daylighting factor, and all living, dining and home office rooms achieving a daylighting factor of at least 1.5%
	HEA 2 Sound Insulation	4	3	Credit awarded by default as the property is detached.
	HEA 3 Private Space	1	1	Adequately sized external private or communal space for the residents of the dwelling(s) it serves. Must also be accessible and compliant to the IDP Checklist
	HEA 4 Lifetime Homes	4	4	All 16 requirements of the new standards of Lifetime Homes to be included in both the communal and dwellings areas of the development.
Health & Wellbeing Category Predicted Score		**12**	**11**	**Credit Weighting - 1.16**
Management	**MAN 1** Home User Guide (HUG)	3	3	A Home User Guide will be provided to all dwellings on the scheme detailing information relating to the technical and operational performance of the home. The following provides a list of the type of information that should be included in the Home User Guide - further detailed information is required to meet the full requirements of the HUG. Part 1 - Operational Issues The list below indicates the type of information that should be included a. Environmental strategy/design and features b. Energy c. Water Use d. Recycling and Waste e. Sustainable DIY f. Emergency Information g. Links, References and Further Information h. Provision of Information in Alternative Formats Part 2 – Site and Surroundings The list below indicates the type of information that should be included a. Recycling and Waste b. Sustainable (Urban) Drainage Systems (SUDS) c. Public Transport d. Local amenities e. Responsible Purchasing f. Emergency Information g. Links, References and Further Information.
	MAN 2 Considerate Constructors Scheme	2	2	The Considerate Constructors Scheme will be signed up to and there will be a commitment to achieve a CCS score of 35+. Scores in each section within the CCS will be equal to or greater than 7.
	MAN 3 Construction Site Impacts	2	2	The development should monitor and reduce construction site impacts to reduce the affect of construction on the local area. This can involve the limiting of air and water pollution in accordance with best practice principles, as well as the recording, monitoring and displaying of energy and water use from site activities during construction.
	MAN 4 Security	2	2	An Architectural Liaison Officer (ALO) will be appointed to provide advice that will inform the design and ensure that the dwellings meet all aspects of Section 2 – Physical Security of Secured by Design – New Homes.
Management Category Predicted Score		**9**	**9**	**Credit Weighting - 1.11**
Ecology	**ECO 1** Ecological Value of Site	1	1	The land appears to be of low ecological value.
	ECO 2 Ecological Enhancement	1	0	Credit not sought.
	ECO 3 Protection of Ecological Features	1	1	The land appears to be of low ecological value.
	ECO 4 Change of Ecological Value of Site	4	2	A neutral change between -3 and +3 is expected.
	ECO 5 Building Footprint	2	2	Net Internal floor area: net internal ground floor area ratio is greater than or equal to 3:1
Ecology Category Predicted Score		**9**	**6**	**Credit Weighting - 1.33**